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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,787	10/17/2003	Ronald D. Fellman	10503-006003	9557
20985 7590 05/09/2007 FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER SAMUEL, DEWANDA A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,787	<b>Applicant(s)</b> FELLMAN ET AL.	
	<b>Examiner</b> DeWanda Samuel	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>17 October 2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claim 16** is rejected under 35 U.S.C. 102(b) as being anticipated by Hamada et al. (US Patent 4,949,336).

**With regard to claim 16**, Hamada et al. discloses a *method of controlling communications on a network, the method comprising*. Hamada et al. discloses having a multi-slot access method that control the access of data on the network (column 8 line 7-54).

maintaining a substantially synchronized time frame among a plurality of device adapters interconnected by a network, the time frame having a plurality of assigned time phases and a free access phase, the time frame repeating periodically; Hamada et al. discloses having a system of a synchronous time division multiplexing system (STDM) with a transmission apparatus or stations 11-16 in fig. 2 utilizing a multi-slot access method (column 2 line 60-67 and column 4 line 64-67)...the transmission apparatus and stations 11-16 includes a network controller (103) that have the function of generation of

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the frame for transmission composed of plural time slots (column 5 line 17-20)...the transmission frame 4 constituted by a plurality of time slots 8 the slots may be selected arbitrarily ( column 2 line 65-67 and column 3 line 1-2)...transmission frame 4 is transmitted repeatedly along the transmission path ( column 3 line 11-9). Hamada et al further discloses the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases", column 2 line 1-19). It is inferred that the transmission apparatus or station 11 generates a schedule of time slots via network controller (103) located in the transmission station.

controlling a first device adapter to transmit data during at least one of a time phase assigned to the first device adapter and the free access phase and to refrain from transmitting data during a time phase assigned to another device adapter Hamada et al. discloses a transmission apparatus or stations 11-16 ("device adapter") in fig. 2 which includes a network controller (103) and utilizing a multi-slot access method...the network controller (103) have the function of generation of the frame for transmission composed of plural time slots (column 5 line 17-20)...the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases", column 2 line 1-19). Hamada et al. further discloses having in claim 2 a multi-slot access method that makes a determination if the time slot is "busy" ("assigned time phase") or "free" and if the time slot is not "busy" data can be transmitted (column 8 line 48-54).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobson (US Patent 6,507,585) in view of Hamada et al. (US Patent 4,949,336).

**With regard to claim 1**, Dobson discloses having system with a *device adapter to transmit data from a device via a network according to a time frame* (column), Dobson discloses having a LAN adapter device that are internal or external to a DMT (discrete Multi-Tone) LAN devices such as computers, computer peripherals such as printers, and modems, copiers, fax machines and personal digital assistants connected to DMT LAN (Discrete Multi-Tone Local Area Network, column 4 line 48-62). It is

obvious that the data that being transferred from the LAN adapter will either real-time or non real-time data.

However, Dobson does not explicitly *discloses the time frame is substantially synchronized in the device adapter and at least one other device adapter in communication with the network, the time frame including a plurality of assigned time phases and a free access phase, the time frame repeating periodically.* Hamada et al. discloses having a system of a synchronous time division multiplexing system (STDM) with a transmission apparatus or stations 11-16 in fig. 2 utilizing a multi-slot access method (column 2 line 60-67 and column 4 line 64-67)...the transmission apparatus and stations 11-16 includes a network controller (103) that have the function of generation of the frame for transmission composed of plural time slots ( column 5 line 17-20)...the transmission frame constituted by a plurality of time slots 8 the slots may be selected arbitrarily ( column 2 line 65-67 and column 3 line 1-2). Hamada et al. further discloses that the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases"). In addition, Hamada et al. discloses that the system of a synchronous time division multiplexing system (STDM) enables the transmission of both periodical information and burst-type information in a mixed manner (column 2 line 1-67 and fig. 1). It is inferred that the transmission frames 4 with time slots will and without time slots will be transmitted in a periodic manner.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a LAN adapter device as taught by Dobson in a

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system multi-slot access method using a synchronous time division multiplexing technique as taught by Hamada et al. to provide a synchronization technique that will avoid collision during transmission.

However, Dobson is silent about *the device adapter is configured to transmit data during at least one of a time phase assigned to the device adapter and the free access phase, the device adapter further configured to refrain from transmitting data during a time phase assigned to the at least one other device adapter*. Hamada et al. discloses a transmission apparatus or stations 11-16 ("device adapter") in fig. 2 which includes a network controller (103) and utilizing a multi-slot access method...the network controller (103) have the function of generation of the frame for transmission composed of plural time slots (column 5 line 17-20)...the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases", column 2 line 1-19). Hamada et al. further discloses having in claim 2 a multi-slot access method that makes a determination if the time slot is "busy" ("assigned time phase") or "free" and if the time slot is not "busy" data can be transmitted (column 8 line 48-54).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a LAN adapter device as taught by Dobson with a multi-access slot method that transmit data during schedule time slots and nonscheduled time slots and make determination before transmitting if a "free" time slot is detected as taught by Hamada et al. to prevent collision within the system.

**With regard to claim 2**, in combination Dobson and Hamada et al. teaches the system recited in claim 1. *Wherein the network comprises a wireless network.*

Dobson discloses having a internal adapter 74 shown in Figs, 2 and 3... also the physical connection 80 to infrastructure 10 may be a standard-line connection over twisted pair cable... (column 4 line 39-41).

**With regard to claim 3**, in combination Dobson and Hamada et al. teaches the system recited in claim 1. *Wherein the network comprises a wired network.*

Dobson discloses having a internal adapter 74 shown in Figs, 2 and 3 also the physical connection 80 to infrastructure 10 may be a standard-line connection over twisted pair cable or may be a wireless service to the gateway 100... (column 4 line 39-42).

**With regard to claim 4**, in combination Dobson and Hamada et al. teaches the system recited in claim 3. *Wherein a physical layer of the network comprises an*

*Ethernet physical layer.* Dobson discloses having a LAN internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and physical layer 262 (column 6 line 56-57).

**With regard to claim 5**, in combination Dobson and Hamada et al. teaches the system recited in claim 3. *Wherein the physical layer of the network is other than an*

*Ethernet physical layer.* Dobson discloses having a LAN (local area network) internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and physical layer 262



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(column 6 line 56-57). It is known in the art that a LAN ( local area network) utilize Ethernet technology.

**With regard to claim 6**, in combination Dobson and Hamada et al. teaches the system recited in claim 3. *Wherein the physical layer comprises one or more of a home phone network (HPN) physical layer, a cable network physical layer, and a powerline communication (PLC) physical layer.* Dobson discloses having a physical layer utilizing DMT (Discrete Multi-Tone) LAN medium, or physical electrical connection between devices, preferable standard residential telephone wiring-typically pairs of twisted wires ("home phone network (HPN) physical layer", column 4 line 60-62).

**With regard to claim 7**, in combination Dobson and Hamada et al. teaches the system recited in claim 1. *Including at least one device in communication with the device adapter, the device to generate data to be transmitted by the device adapter.* Dobson discloses in Fig. 3 having a LAN device with a external adapter or a internal adapter ...the DMT (Discrete Multi-Tone) LAN devices may include computers, computer peripherals such as printers and modems, copiers fax machines and personal digital assistants (column 4 line 51-54).

**With regard to claim 8**, in combination Dobson and Hamada et al. teaches the system recited in claim 3. *Wherein the device adapter transmits data encoded on a carrier wave using a modulation scheme selected from the group consisting of*

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*quadrature amplitude modulation (QAM) and quadrature phase shift keying (QPSK).*

Dobson discloses having a LAN adapter device having a frequency domain equalizer ... the adapter devices provides a transceiver on a physical layer includes a transmitter having a DMT modulator (abstract)...the MOD modulator block 406 maps input data to complex points in a signal constellation for each channel. One of a number modulation techniques may be used, Quadrature Amplitude Modulation (QAM)...including QPSK (Quadrature Phase Shift Keying, column 11 line 45-54).

**With regard to claim 9,** Dobson discloses having a system with a DMT LAN (Discrete Multi-Tone Local Area Network) network (column 2 line 34-35).

*a plurality of devices* ( fig. 5); Dobson disclose having a DMT LAN (Discrete Multi-Tone Local Area Network) devices.

*a plurality of device adapters each in communication with one or more of the plurality of devices, wherein each of the plurality of device adapters is configured to transmit data from at least one of the plurality of devices over the network according to a time frame,* Dobson discloses having plurality of external or internal LAN adapter devices within DMT LAN devices such as computers, computer peripherals such as printers and modems, copiers fax machines and personal digital assistants (column 4 line 51-54). Dobson further teaches about Ethernet technology and that the media access control rules are embedded in each Ethernet interface and allow multiple computers to access the shared Ethernet channel (column 1 line 25-61)

However, Dobson does not explicitly *discloses the time frame is substantially synchronized in the device adapter and at least one other device adapter in communication with the network, the time frame including a plurality of assigned time phases and a free access phase, the time frame repeating periodically*; Hamada et al. discloses having a system of a synchronous time division multiplexing system (STDM) with a transmission apparatus or stations 11-16 in fig. 2 utilizing a multi-slot access method...these transmission apparatus and stations 11-16 includes a network controller (103) that have the function of generation of the frame for transmission composed of plural time slots ( column 5 line 17-20)...the transmission frame constituted by a plurality of time slots 8 the slots may be selected arbitrarily ( column 2 line 65-67 and column 3 line 1-2). Hamada et al. further discloses that the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases"). In addition, Hamada et al. discloses that the system of a synchronous time division multiplexing system (STDM) enables the transmission of both periodical information and burst-type information in a mixed manner (column 2 line 1-67 and fig. 1). It is inferred that the transmission frames 4 with time slots will and without time slots will be transmitted in a periodic manner.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a LAN adapter device as taught by Dobson in a system multi-slot access method using a synchronous time division multiplexing technique as taught by Hamada et al. to provide a synchronization technique that will

avoid collision during transmission.

However, Dobson is silent about *the device adapter is configured to transmit data during at least one of a time phase assigned to the device adapter and the free access phase, the device adapter further configured to refrain from transmitting data during a time phase assigned to the at least one other device adapter*. Hamada et al. discloses a transmission apparatus or stations 11-16 ("device adapter") in fig. 2 which includes a network controller (103) and utilizing a multi-slot access method...the network controller (103) have the function of generation of the frame for transmission composed of plural time slots (column 5 line 17-20)...the time slot areas are indicated as "free or idle" ("free access phase") or "busy" ("assigned time phases", column 2 line 1-19). Hamada et al. further discloses having in claim 2 a multi-slot access method that makes a determination if the time slot is "busy" ("assigned time phase") or "free" and if the time slot is not "busy" data can be transmitted (column 8 line 48-54).

**With regard to claim 10**, in combination Dobson and Hamada et al. teaches the system recited in claim 9. *Wherein the network comprises a wireless network.*

Dobson discloses having a internal adapter 74 shown in Figs, 2 and 3...also the physical connection 80 to infrastructure 10 may be a standard-line connection over twisted pair cable... (column 4 line 39-41).

**With regard to claim 11**, in combination Dobson and Hamada et al. teaches the system recited in claim 9. *Wherein the network comprises a wired network.*

Dobson discloses having a internal adapter 74 shown in Figs, 2 and 3 also the physical connection 80 to infrastructure 10 may be a standard-line connection over twisted pair cable or may be a wireless service to the gateway 100...(column 4 line 39-42).

**With regard to claim 12**, in combination Dobson and Hamada et al. teaches the system recited in claim 11. *Wherein a physical layer of the network comprises an Ethernet physical layer.* Dobson discloses having a internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and physical layer 262 (column 6 line 56-57).

**With regard to claim 13**, in combination Dobson and Hamada et al. teaches the system recited in claim 11. *Wherein the physical layer of the network is other than an Ethernet physical layer.* Dobson discloses having a LAN (local area network) internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and physical layer 262 (column 6 line 56-57). It is known in the art that a LAN (local area network) utilize Ethernet technology.

**With regard to claim 14**, in combination Dobson and Hamada et al. teaches the system recited in claim 11. *Wherein the physical layer comprises one or more of a home phone network (HPN) physical layer, a cable network physical layer, and a*

*powerline communication (PLC) physical layer.* Dobson discloses having a physical layer utilizing DMT (Discrete Multi-Tone) LAN medium, or physical electrical connection between devices, preferable standard residential telephone wiring-typically pairs of twisted wires (“home phone network (HPN) physical layer”, column 4 line 60-62).

**With regard to claim 15**, in combination Dobson and Hamada et al. teaches the system recited in claim 9. Wherein the device adapter transmits data encoded on a carrier wave using a modulation scheme selected from the group consisting of quadrature amplitude modulation (QAM) and quadrature phase shift keying (QPSK). Dobson discloses having a LAN adapter device having a frequency domain equalizer ... the adapter devices provides a transceiver on a physical layer includes a transmitter having a DMT modulator (abstract)... the MOD modulator block 406 maps input data to complex points in a signal constellation for each channel. One of a number modulation techniques may be used, Quadrature Amplitude Modulation (QAM)... including QPSK (Quadrature Phase Shift Keying, column 11 line 45-54).

**5. Claims 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada et al. (US Patent 4,949,336) as applied to claim 16 above, and further in view of Dobson (US Patent 6,507,585).

**With regard to claim 17**, Hamada et al. teaches the method recited in claim 16. *Controlling the first device adapter to transmit the data on a wireless network.* Hamada

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et al. discloses having a multi-slot access method. However, Hamada et al. does not disclose controlling the first device adapter to transmit the data on a wireless network. Dobson discloses having an LAN internal adapter 74 shown in Figs, 2 and 3. Dobson further teaches that the medium access control rules are embedded in each Ethernet interface (" LAN internal adapter 74), and allow multiple computers to access the shared Ethernet channel (column 1 line 54-61). In addition, Dobson discloses the physical connection 80 to infrastructure 10 may be a standard land-line connection over twisted pair cable or may be a wireless service to the gateway 100 (fig 1 and column 4 line 34-42).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have multi-slot access method as taught by Hamada et al. with medium access control rules are embedded in each Ethernet interface (" LAN internal adapter 74), and allow multiple computers to access the shared Ethernet channel (column 1 line 54-61) as taught by Dobson to provide a more versatile system that is able to handle all types of data.

**With regard to claim 18,** Hamada et al. teaches the method recited in claim 16. *Controlling the first device adapter to transmit the data on a wireless network.* Hamada et al. discloses having a transmission apparatus with a multi-slot access method ( column 8 7-54).

However, Hamada et al. does not disclose controlling Dobson discloses having an LAN internal adapter 74 shown in Figs, 2 and 3. Dobson further teaches that the medium access control rules are embedded in each Ethernet interface (" LAN internal adapter 74), and allow multiple computers to access the shared Ethernet channel (column 1 line 54-61). In addition, Dobson discloses the physical connection 80 to infrastructure 10 may be a standard land-line connection over twisted pair cable or may be a wireless service to the gateway 100 ( fig 1 and column 4 line 34-42).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have multi-slot access method as taught by Hamada et al. with medium access control rules are embedded in each Ethernet interface (" LAN internal adapter 74), and allow multiple computers to access the shared Ethernet channel (column 1 line 54-61) as taught by Dobson to provide a more versatile system that is able to handle all types of data.

**With regard to claim 19,** Hamada et al. teaches the method recited in claim 18.

*Wherein the wired network has a physical layer of the network comprises an Ethernet physical layer.* Hamada et al. discloses having a transmission apparatus or station (" adapter device") with a multi-slot access method. However, Hamada et al. does not disclose a physical layer of the network comprises an Ethernet physical layer. Dobson discloses having an internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and a physical layer 262 (column 6 line 56-57). Also, Dobson discloses the DMT LAN



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devices is connected to the DMT LAN 20 which may include computers, computer peripherals such as printers and modems, TVs and audio visual equipment which uses Ethernet technology.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a transmission apparatus or station (" adapter device") with a multi-slot access method as taught by Hamada with DMT LAN (Discrete Multi-Tone Local Area Network) devices is connected to the DMT LAN 20 utilizing Ethernet technology as taught by Dobson to provide a technique that will provide each device its own private connection to the LAN.

**With regard to claim 20,** Hamada et al. teaches the method recited in claim 18.

*Wherein the wired network has a physical layer of the network comprising other than an Ethernet physical layer.* Hamada et al. discloses having a transmission apparatus (" adapter device") with a multi-slot access method in a local area network (fig. 2).

However, Hamada et al. does not disclose having a wired network has a physical layer of the network comprising other than an Ethernet physical layer. Dobson discloses having an internal adapter 74 shown in Figs, 2 and 3 provides MAC layer 260 and physical layer 262 (column 6 line 56-57).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a transmission apparatus (" adapter device") with a multi-slot access method in a local area network (fig. 2) as taught by Hamada using the

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MAC layer 260 as taught by Dobson to provide a way to move data packets from one adapter to another across a shared channel.

**With regard to claim 21**, Hamada et al. teaches the method recited in claim 20.

*Wherein the wired network has a physical layer comprising at least one of a home phone network (HPN) physical layer, a cable network physical layer, and a powerline communication (PLC) physical layer.* Hamada et al. discloses having a transmission apparatus ("adapter device") with a multi-slot access method in a local area network (fig. 2). However, Hamada et al. does not disclose having a wired network has a physical layer comprising at least one of a home phone network (HPN) physical layer, a cable network physical layer, and a powerline communication (PLC) physical layer. Dobson discloses having a physical layer utilizing DMT (Discrete Multi-Tone) LAN medium, or physical electrical connection between devices, preferable standard residential telephone wiring-typically pairs of twisted wires ("home phone network (HPN) physical layer", column 4 line 60-62).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to having a transmission apparatus ("adapter device") with a multi-slot access method in a local area network (fig. 2) as taught by Hamada DMT (Discrete Multi-Tone) LAN medium, or physical electrical connection between devices ("home phone network (HPN) physical layer") as taught by Dobson to have a physical medium that is compatible to the technology within the LAN such as Ethernet technology.

**With regard to claim 22**, Hamada et al. teaches the method recited in claim 16.

*controlling the first device adapter to transmit data encoded on a carrier wave using a modulation scheme selected from the group consisting of quadrature amplitude modulation (QAM) and quadrature phase shift keying (QPSK).* Hamada et al. discloses having a transmission apparatus with a multi-slot access method in a local area network (fig. 2). However, Hamada et al. does not disclose controlling the first device adapter to transmit data encoded on a carrier wave using a modulation scheme selected from the group consisting of quadrature amplitude modulation (QAM) and quadrature phase shift keying (QPSK). Dobson discloses having a LAN adapter device having a frequency domain equalizer ... the adapter devices provides a transceiver on a physical layer includes a transmitter having a DMT modulator (abstract)...the MOD modulator block 406 maps input data to complex points in a signal constellation for each channel. At least one of the modulation techniques may be used, Quadrature Amplitude Modulation (QAM)...including QPSK (Quadrature Phase Shift Keying, column 11 line 45-54).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a transmission apparatus (" adapter device") with a multi-slot access method in a local area network (fig. 2) as taught by Hamada et al. including a transceiver on a physical layer includes a transmitter having a DMT modulator (abstract) that is using at least one of the modulation techniques may be used, Quadrature Amplitude Modulation (QAM)...including QPSK (Quadrature Phase

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Shift Keying, column 11 line 45-54) as taught by Dobson to provide a technique that will reduce phase ambiguity between the transmitter and receiver.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DeWanda Samuel whose telephone number is (571) 270-1213. The examiner can normally be reached on Monday- Thursday 8:30-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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DeWanda Samuel

5/3/2007

  
RICKY Q. NGO  
SUPERVISORY PATENT EXAMINER